WYETH

A Show Building for an Automobile Factory

Architecture

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A SHOW BUILDING FOR AN AUTOMOBILE FACTORY

BY

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THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

WALTER HEALD WYETH

ENTITLED A SHOW BUILDING FOR AN AUTOMOBILE FACTORY

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

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INTRODUCTION.

The subject of this thesis determines the depth to which the study of the factory proper should be entered into - purely sufficient to determine the proper layout for the several buildings as effecting the ease and speed of the progression and combination of parts into the finished automobile, as it stands for inspection in the Show Building. The development of the Show Building shall be more exhaustive and shall be the primary object of study.

LIST OF ORIGINAL DRAWINGS SUBMITTED.

1. Main Elevation of Show Building.
2. Main Floor Plan, Sections and End Elevation.
3. Plan of Layout of Entire Factory, Bird's Eye view; Perspective.

SCHEDULE OF LAYOUT OF BUILDINGS.

1. Power Plant.

2. Foundry.

3. Forge.

4. Receiving cars.

5. a. Grinding.
   b. Automatic screw machines.
   c. Machine shops.
   d. " "
   e. " "
   f. " "

6. Motor assembling and motor tests.

7. Tin shop.

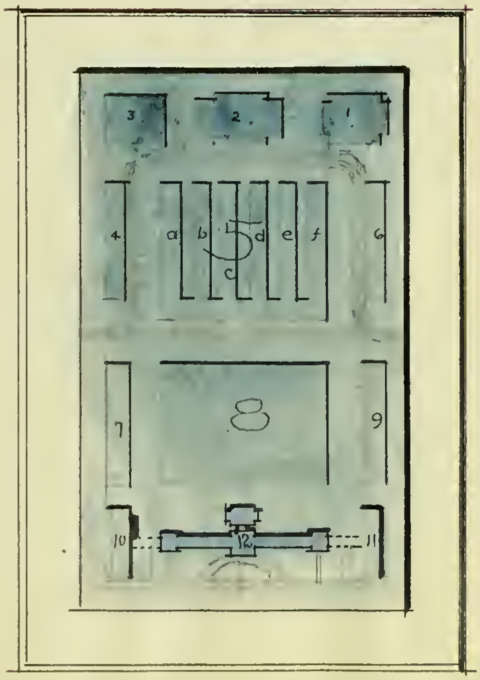
8. Machine shops.
   Tin and sheet iron.
   Painting.
   Body assembling.
   Finishing.

9. Shipping.
   Repairs.

10. Offices.
    Draughting top floor.

11. Offices.
    Experimental department.

12. Show Building.



SCHEDULE OF ROOMS.

Building facing east.

The Show Building.

Main Pavilion:

Two entrances and entrance vestibules.

Automobile entrance.

Show rotunda.

Mezenine balcony above.

Symmetrical wings, north and south:

Offices, local sales, and advertising department south.

Offices, demonstration department, north wing.

Show rooms, eight north and south, respectively.

Mezenine balcony.

End Pavilions:

Entrance and entrance vestibules.

Automobile entrance.

Writing room.

Ladies retiring room.

Stair hall.

Appendage:

Entrance vestibule and auto entrance from factory grounds.

Refectory.

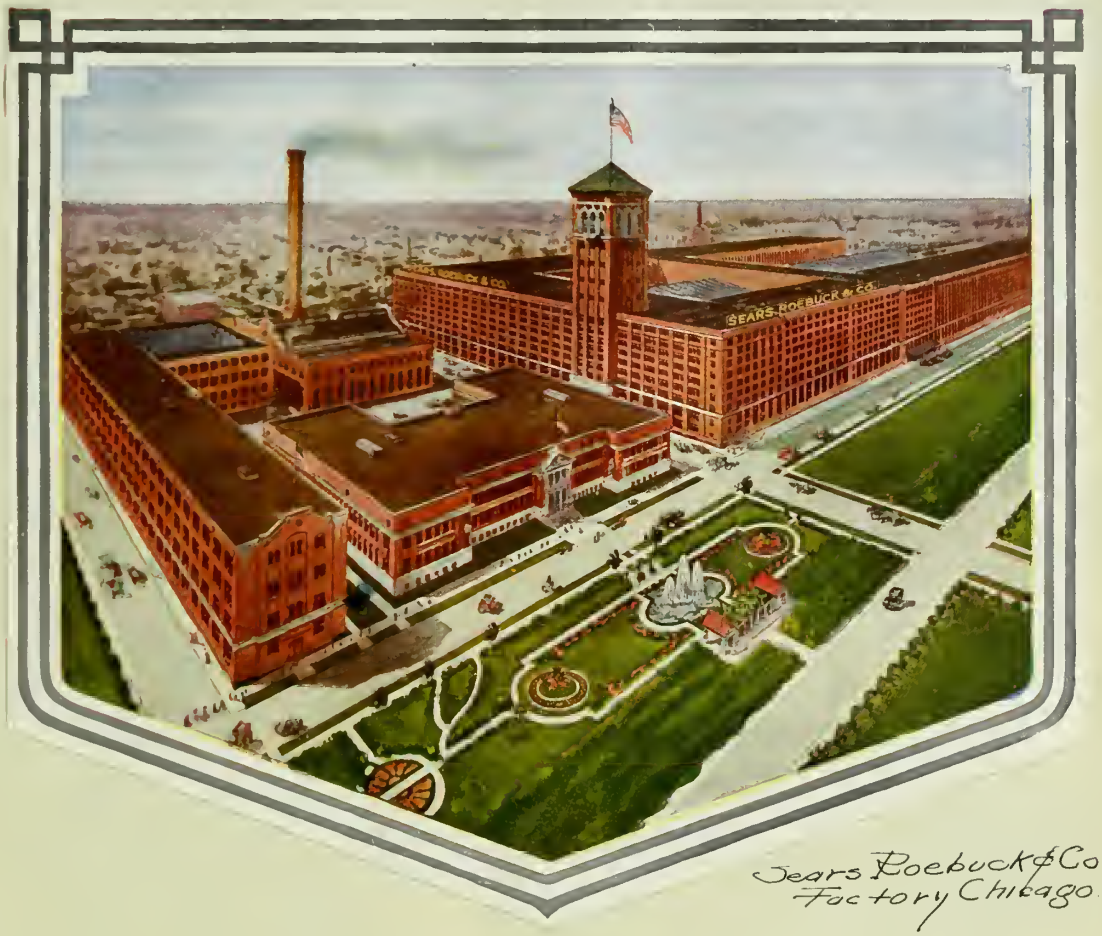
Ladies retiring room.

Vestibules.

Toilets.

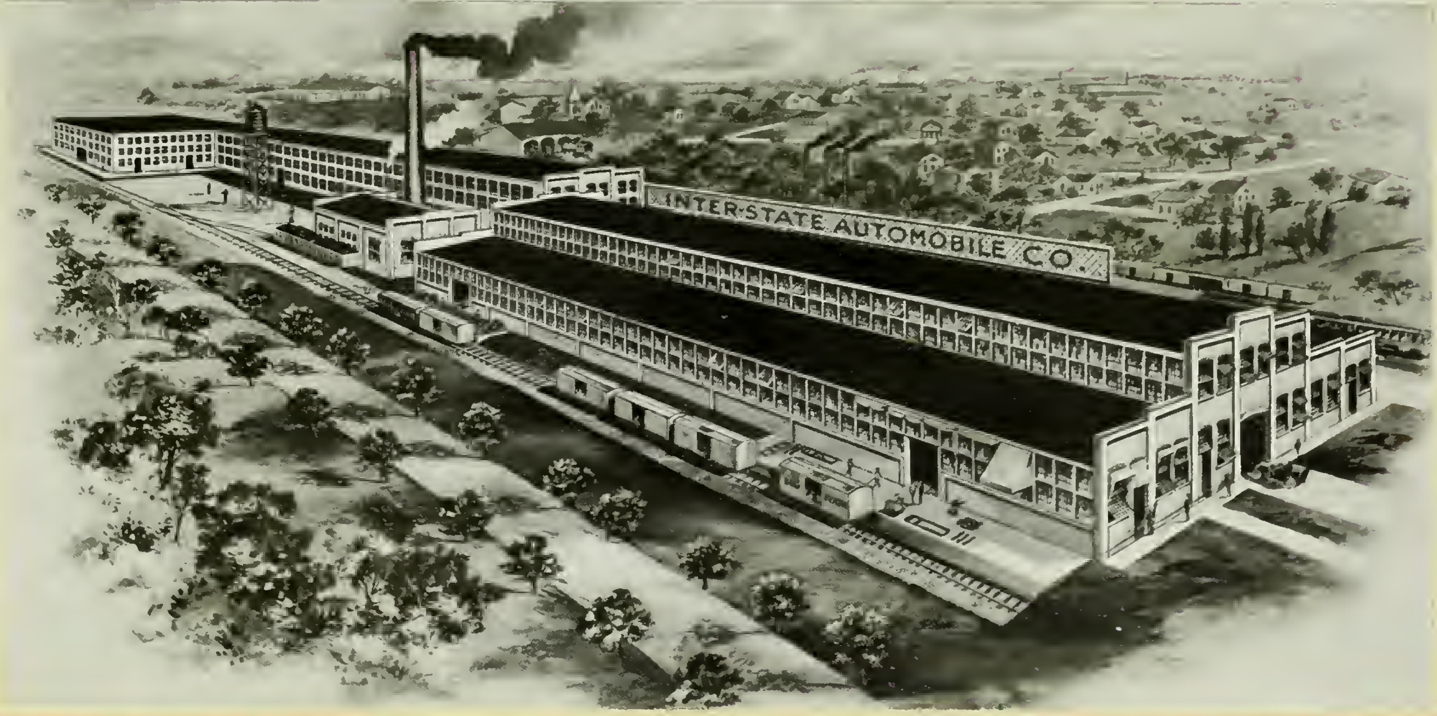
D

THE NEW (JUST COMPLETED) CLOW PLANT



Sears Roebuck & Co
Factory Chicago

Packard Automobile Factory



Inter State Automobile Factory.

BRIEF OUTLINE OF PRESENT STATE AND FUTURE DEVELOPMENT OF AUTOMOBILE BUSINESS.

During the past few years the automobile business has increased in rapid growth until at the present time it is considered one of the largest manufacturing businesses in the United States.

Conditions at present are such that one wising to purchase an automobile of any of the leading makes has to wait a considerable time after placing his order before the delivery of the car. The demand for automobiles is something enormous and the competition among manufacturers is none the less. This great demand will undoubtedly subsist to a certain degree. The manufacturers and their heavy investments must keep up their marginal profits. History foretells that many small manufacturers will go out of business and the big manufacturers will continue to exist. They will, however, be forced to make changes toward the more economical business methods. Their natural tendencies will cause them to resort to cutting the agent's profits. The automobile agent of today with comparatively little money invested makes the large amount of twenty per cent (customary) profit on the cars he sells. It remains for the near future to see a more direct transaction of business between the manufacturer and the purchaser. It is more than probable that there will be a show building ownded by the manufacturer in every city and town of moderate size. These will be under the direct supervision of the headquarters located at the factory. The big automobile factory of today employs from 2500 to 7000 men. They are in most every case located in a large city. The factory grounds therefore would be the natural site for the greatest of

all of the show buildings. Here room, light, and air would be plentiful.

Automobile factories being of a more recent type of factory then most ordinary factories are as a rule situated not in the dirty factory district, but in some new subdivision in the outskirts of the city.

A direct means of communication between the central business district and the Show Building would be a perfected automobile system private to the company and carrying patrons and visitors to and from the heart of the city.

PURPOSE AND DESIGN.

To take visitors through a factory which covers twenty-five or fifty acres of ground is practically out of the question. It is an expensive proposition for any concern to allow the eyes and attention of thousands of skilled mechanics and workmen to be momentarily detracted from their work by the presence of visitors passing by. Furthermore it is an injustice to the average visitor to be guided for miles through a factory which he can only partially appreciate. Therefore the Show Building must be designed with two principal motives in view.

First, it must be of such a character as to alleviate the difficulty above mentioned and still allow inspection of the various stages of development of the automobiles. Second, together with answering as far as possible, every necessary feature and purpose in regard to planning, the building should in exterior and interior design define its purpose in its architectural character.

The architectural character of this building, as is true of any other, must be determined by the purpose of its existence. It should to a certain degree uphold the same feeling and be in keeping with the other buildings with which it is associated on the factory grounds. Because this building is in a certain sense a factory building is no longer an excuse for plain ordinary brick walls with windows and a roof. Factory site improvement has within the last few years taken seed in the minds of owners and investors to a remarkable degree. Artistic execution of the buildings and grounds has lately become an important factor in establishing

industrial plants. The owner has been lead to believe and with reason, that trouble arising from labor and social problems have been lessened considerably by this advance in factory conditions. Furthermore, they believe, and it is a psychological fact[*] that the factory man working among cheerful surroundings with plenty of light and air, with some pleasant view to give relief to his eyes at the noon hour, with a restful walk between grass plots or shrubs to follow home at evening, would add no small amount to the work he should be able to turn out under otherwise similar conditions.

The United States has probably been leader in carrying out these views and Germany and England have also been closely associated in the movement. The large factory of Sears, Roebuck and Company in Chicago designed by Mr. Geo. C. Nimmons is one of the best examples of beautiful factory grounds and attractive buildings. They show, as likewise do some of the later German examples[1], what may be done in brick, stone, and concrete without the use of columns. In this problem of the show building it was felt that to restrain from the use of columns and cornices would be a well founded attempt to secure the proper feeling in the design.. By the correct blending of material, the proper distribution of mass, and above all careful attention given to proportioning of openings, piers, masses, and outline, the desired result would be accomplished. The patrons and visitors must be impressed by the powerfulness of the design to such an extent as to be made

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[1] Der Architekt. Vol.13, p.37 (1907).

[*] James Psychology

to increase their regard for the product of the manufacturers and develop a feeling that the management of such a concern must be applying their most sincere and careful attention to every possible phase of the automobile busines. The question of how to design a building of this character is the direct and primary object of study. The output of a well planned factory is directly proportional to the size of the factory, the size of the show building therefore will naturally be determined by the size of the factory. The factory as taken up in this problem is calculated to employ from five to seven thousand men when in full running.

The types of cars manufactured are as follows:

1. Touring car.
2. Limousine.
3. Landaulet.
4. Roadster.
5. Torpedo.
6. Delivery car.
7. Motor truck, standard and special length.

A proportional amount of space is given to the machines according to their importance. The show spaces or units which will be given to each type are as follows:

Type.	Number of units.	Devoted to
Touring car	1	50 h.p. car.
	1	"50" chassis.
Limousine	1	40 h. p. car.
	1	"40" chassis.
Landaulet	1	30 h. p. car.
Roadster	1	30 h. p. car.
Torpedo	1	"50" car.
	1	"50" chassis.
	1	"40" car.
	1	"40" chassis.
Delivery car	1	"30" car.
Motor truck	1	Standard truck.
	1	Special length.
	1	Special length.
	1	Motor and parts.
	1	Specialties.

The space between or the aisle between these show rooms is sufficiently wide to allow the free passage of two cars. At either end is a small show lobby where automobiles may be placed or turned about. At the middle is a large rotunda, octagonal in plan. This allows the free passage and turning around of cars while demonstrating. There is a mezenine balcony running the full length of the building for the consideration of patrons during a special exhibition of any kind. This mezenine balcony is reached by stairways from either of the end pavillions or central pavillion. The plan of the building is symmetrical about the east and west axis. The end pavillion contains a vestibule at either side of the front entrance. These rooms are duplicated in plan on the opposite side of the building but are used for different purposes,

i.e., a ladies waiting room and a lounging and writing room near the automobile entrance. There are booths containing catalogues, printed matter, and stationery in each room.

The writing room and lounging room may be used by any members of a party entering the building who may have urgent business correspondence to write. It is not unlikely that ladies may be present in a visiting party who will be forced to wait while the gentleman goes into detailed discussion over some features of the automobile he is investigating. The ladies waiting room is therefore for convenience and comfort of ladies in this position.

There is an automobile entrance in the end pavillion at the extreme ends of the building in order that a parade or a continuous procession of automobiles may pass through the show rotunda. Since this is the only building on the grounds frequented by the public, it must have numerous and convenient entrances. At the central pavillion is placed the main entrance for both automobiles and pedestrians. There are two doors for the latter, each entering a vestibule.

The vestibules contain large booths which serve as an information department and offices for the guides of this building. The first two units on either side of aisle next to the center pavillion are set off from the rest by bronze grill work, this space being used as the business office for the department of local sales in one wing and local advertising in the other.

The appendage is devoted entirely to reception and comfort of visitors. The main entrance to the appendage is a large hall leading from the main rotunda. There is an entrance with two vestibules at the rear however, where patrons may enter di-

rectly after having been driven through the factory grounds. The vestibules at either entrance lead to a refectory and ladies retiring room on either side of the hall. A door from either vestibule leads to a toilet.

The increasing of good manufacturers has caused competition to become so keen that every opportunity must be made use of to afford means of pleasing the prospective buyer, not only to cause him to feel that the machine he is inspecting is mechanically perfect, but he must also be kept in good spirits and become a personal acquaintance and when possible form a friendship with the salesman who has him in charge. All these things increase and make probable future sales with those who otherwise might feel too indispised to go ahead with a bargain, although they may feel that the standard of the machine is as high as they could wish for. The refectory therefore and other rooms expressly for the comfort of visitors are considered a necessity in this building.

Considerable time is given to the design of the exterior to give it the effect of a building situated among factory buildings but itself of a slightly more elaborate and showy nature. It is meant to be at the same time, massive, attractive, and truthful in expression. Massive, to impress the prospective client with the strength of the company's ability to carry out their convictions. Attractive to interest and welcome the prospective client. Truthful in expression that the client's mind may be kept free from even the thought of any deception.

This building is to house finished machines and is a place where well dressed are invited. Furthermore the character

of the work unlike that taking place in buildings in the rear is more finished and final, hence the building must be one of a more finished and attractive character than any of the other buildings on the grounds.

By the strength of the massive piers and large recessed opening, with the dome as a crown, the central pavillion is strongly emphasized. The end pavillions although of very similar design are changed sufficiently to lessen thought of repetition and being considerably smaller and weaker leave the center of interest correctly placed in the central pavillion.

CONSTRUCTION.

The building shall be constructed of steel and masonry, the latter shall consist of stone, brick, and concrete. Steel shall be used for framing in the form of columns throughout the interior of the building and in the exterior walls. The walls and piers at the corners of the pavillions are to be of concrete except the exterior facing. Steel shall also be used entirely for trussing the roof and domes. All exterior masonry shall consist of brick and stone handled alternately in such a manner as to be pleasing and attractive.

White and mottled green glazed terra cotta tile shall be the principle finish of interior. This glazed tile shall be finished by simple ornamental patterns, borders, and friezes in color. The floors in general are to be of composition rubber except the vestibules. The interior columns which are of skeleton construction are as slender as possible and all room available in given to the free circulation of people and machines. A low balustrade encloses the mezenine balcony. A patterned glazed terra cotta tile frieze follows around in the cornice above flat arched openings to the show spaces. The cylindrical roof is of concrete and steel, the ceiling being of rough cast plaster in a graded brown green tint from the skylight to connice over balcony. There is a frosted glass skylight in each panel of the arched ceiling, extending the length of either wing. The under part of each roof truss is dropped below the surface of the ceiling and covered with moulded terra cotta to form a rib or arch. The walls of refectory and ladies retiring room are wainscoted in

glazed tile up to a wide fresco frieze extending around the room relating a story of mode of travel as affected by industrial enterprises. The ceiling is of tinted plaster and is formed in panels by plaster beams running in both directions. Between the top of the frieze and soffit of beams a half beam is dropped slightly below the cross beams. The floor is of Welch Quarry tile. The toilets are finished in white glazed tile, floor and wainscoting, Tennessee marble partitions, and white enamel walls and ceiling. The vestibules between refectory and toilets are to have a similar finish. The floors of the vestibules are to be laid in mosaic with colored tile. The booths in the other vestibules are of oak in mission finish with bronze grille work of craftsman design.

HEATING.

The heating of the building is by direct ateam radiation, the exhaust steam being used,and piped from the power plant at the rear of the grounds. Only a sufficient portion of the basement of the show building is excavated to allow the running of the mains, a men's toilet, and a small store room. The building is more or less open and plenty of natural ventilation may be had through the extrances and other openings, for all ordinary circumstances. During any special exhibitions, etc., when many people may be gathered, ventilation may be increased sufficiently by means of opening the windows. To use direct steam radiation therefore seems the most plausible and is undoubtedly the most economical. Wall and window radiators may be placed in such a manner as not to interfere with passing automobiles.